



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,709	09/08/2003	Kuo-Hsing Teng	67,200-1150	2302

7590 09/07/2006

TUNG & ASSOCIATES

Suite 120

838 W. Long Lake Road

Bloomfield Hills, MI 48302

EXAMINER

BUEKER, RICHARD R

ART UNIT	PAPER NUMBER
----------	--------------

1763

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

6

Office Action Summary	Application No. 10/658,709	Applicant(s) TENG ET AL.	
	Examiner Richard Bueker	Art Unit 1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5, 9-11, 13 and 17-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 9-11, 13 and 17-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1763

Claims 1-3, 5, 9-11, 13 and 17-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Independent claims 1, 9 and 17 have been amended to change "an exposed surface" to "a planar exposed surface", and applicants have argued that this change makes the claims patentable. It is noted, however, that in claim 1, lines 5, 6, 9 and 10; claim 9, lines 11 and 12; claim 13, line 4; claim 17, lines 6, 7 and 10; claim 19, line 2; and claim 20, line 6, the phrase "said exposed surface" remains in the claims unamended and therefore now lacks proper antecedent basis. It is unclear what exposed surface is being referenced. All occurrences of the phrase "said exposed surface" should be changed to "said planar exposed surface" or "an exposed surface", to make clear what exposed surface is being referenced.

Claims 1, 2, 5, 9, 11, 17, 18, 20, 22, 23 and 24 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Harada (6,402,844) (see Fig. 6 and col. 6, lines 35-45) who discloses a vaporizer comprising a tank for containing liquid HMDS primer to form a planar exposed surface of said liquid primer, and a nozzle assembly including a nozzle plate (i.e. the top plate of the tank) comprising a plurality of openings disposed above the planar exposed surface of liquid primer. The openings are arranged for directing a plurality of gas streams onto said planar exposed surface of liquid primer to form primer vapor in a vapor collection space above said planar exposed surface of said liquid primer.

Regarding the limitations of claim 9, the upstream end of the nitrogen gas supply line of Fig. 6 of Harada is "a gas inlet pipe for receiving a primary gas stream" as recited in claim 9. Also, the downstream end of this nitrogen gas supply line is shown in Fig. 6 to be a manifold section, and this manifold section is "a housing having a housing interior provided in fluid communication with said gas inlet pipe". Also, the top plate of the vaporizer body 31 is "a nozzle plate in downstream fluid communication with said housing, said nozzle plate having a plurality of openings for receiving the primary gas stream and ejecting a plurality of secondary gas streams onto said exposed surface of said liquid primer". Regarding claim 2, the nozzle plate of Harada is "for dividing said primary gas stream" as claimed.

Claims 3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harada (6,402,844) taken in view of applicants' description of the prior art (see Fig. 1 and page 6, lines 14-18 of applicants' specification) which makes clear that prior art HMDS vaporizers were conventionally equipped with a liquid level sensor, and it would have been obvious to include such a level sensor in Harada's HMDS vaporizer to facilitate refilling of the tank when needed.

Claims 13, 21 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harada (6,402,844). Regarding the recitation of plural radially extending rows of openings in claims 13, 21 and 25, it is noted that Fig. 6 of Harada is a schematic diagram, and the particular number of openings and the particular locations of the openings would have been a prima facie obvious matter of choice for one skilled in the art.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harada (6,402,844) for the reasons stated above, and taken in further view of applicants' description of the prior art. At page 7, lines 17-22 of applicants' specification the operation of the prior art vaporizer illustrated in applicants' Fig. 1 is described as having carrier gas supplied "at a pressure of typically about 50 Kpa", which is 375 torr. It would have been obvious to one skilled in the art to operate a vaporizer of the type shown in Fig. 4 of Fukuda at a pressure of less than atmospheric pressure because applicants teach that a sub-atmospheric pressure is typically used in this type of vaporizer.

Claims 2, 9-11, 13, 21 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harada (6,402,844) taken in view of Bowles (853,915). Bowles (see Figs. 2 and 3) discloses a vaporizer analogous to that of Harada, wherein a nozzle plate directs plural gas streams onto a planar exposed surface of the liquid to be vaporized. In Bowles' vaporizer, the nozzle plate 4 is an integral part of the carrier gas supply manifold 6. If, for the sake of argument, claims 2, 9-11 and 13 were interpreted to require the claimed nozzle plate to be an integral part of a carrier gas supply manifold, it would have been obvious to one skilled in the art to provide the nitrogen gas supply manifold of Fig. 6 of Harada in the form taught by Bowles, because Bowles teaches one skilled in the art that his manifold and nozzle plate arrangement will successfully accomplish Harada's goal of directing plural gas streams onto the surface of a liquid to be vaporized.

Also, regarding claims 13, 21 and 25, Bowles illustrates the use of plural rows of openings 7 (see Fig. 3 of Bowles). Also, the rows of openings of Bowles are arranged

on lines that pass through the center of the nozzle plate 4 and therefore the rows of openings extend radially. It would have been obvious to use this arrangement of openings in the nozzle plate of Harada because Bowles teaches that it successfully accomplishes the goal of Harada.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harada (6,402,844) taken in view of Bowles (853,915) for the reasons stated above, and taken in further view of applicants' description of the prior art (see Fig. 1 and page 6, lines 14-18 of applicants' specification) which makes clear that prior art HMDS vaporizers were conventionally equipped with a liquid level sensor, and it would have been obvious to include such a level sensor in Harada's HMDS vaporizer to facilitate refilling of the tank when needed.

Applicants' arguments have been considered but are not directed to the new grounds of rejection stated above.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 1763

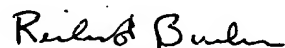
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Bueker whose telephone number is (571) 272-1431. The examiner can normally be reached on 9 AM - 5:30 PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1763

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Richard Bueker
Primary Examiner
Art Unit 1763